

RCI Mobile Application Using Tablets for RCI Field data Collection

A Bridge Between The Office and The Field Inventory!

A photograph of two men in white dress shirts shaking hands. The background is blurred, showing what appears to be an office or conference room setting with computer monitors and other equipment.

**Transportation Statistics
Statewide Workshop – 2016**



The RCI Mobile Application

- The Office
- The Field
- Bridging The Field and The Office
- Advantages

The Office

New WEB application in
Amazon Cloud Server

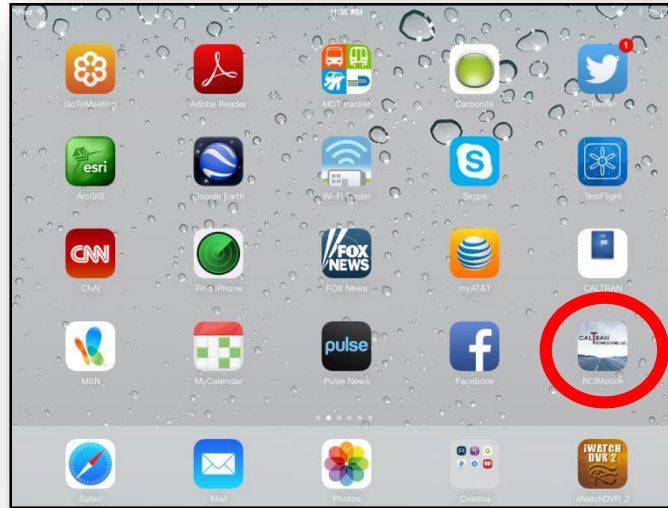


- RCI Table uploaded

Segments		Segment Results		Archived Segments		Archived Segment Results		Features												Manage Users		Logout
Import Add New																						
<input type="text"/>		<input type="button" value="Search"/>																				
<input type="checkbox"/>	Corporate ID	Project ID	Roadway ID	Roadway Status	Roadway Name	BMP	EMP	Calc Net Length	Prev RCI Update	RCI Update Deadline	Consultant Assigned	RITA	Dist UC	Under Construction ?	Field Length	Length Diff	Field Inventory Date	RCI Update Date	SLD Update Date	FDOT Submittal Date	Submittal No	Comments
<input type="checkbox"/>	99	66	87054000	ON System	SW 22 STREET	3.042	4.165	0.000	03/01/2014		JPROMERO@CALTRANGROUP.COM	30/05/2013			0.000	0.000						Ed
<input type="checkbox"/>	99	66	87054000	HPMS	SW 22 STREET	3.042	4.165	0.000	03/01/2014		JPROMERO@CALTRANGROUP.COM	30/04/2013			0.000	0.000						Ed
<input type="checkbox"/>	99	66	87065000	ON System	TEST	3.042	4.165	0.000	03/01/2014		JPROMERO@CALTRANGROUP.COM	30/05/2013			0.000	0.000						Ed
<input type="checkbox"/>	99	66	87000616	OFF System	ALTON ROAD	0.000	1.090	0.000	31/05/2008		JPROMERO@CALTRANGROUP.COM				0.000	0.000						Ed
NOTE : Delete and Delete Selected will remove all selected records permanently from database																						
<input type="button" value="Archive Selected"/>			<input type="button" value="Delete ALL"/>			<input type="button" value="Delete Selected"/>																

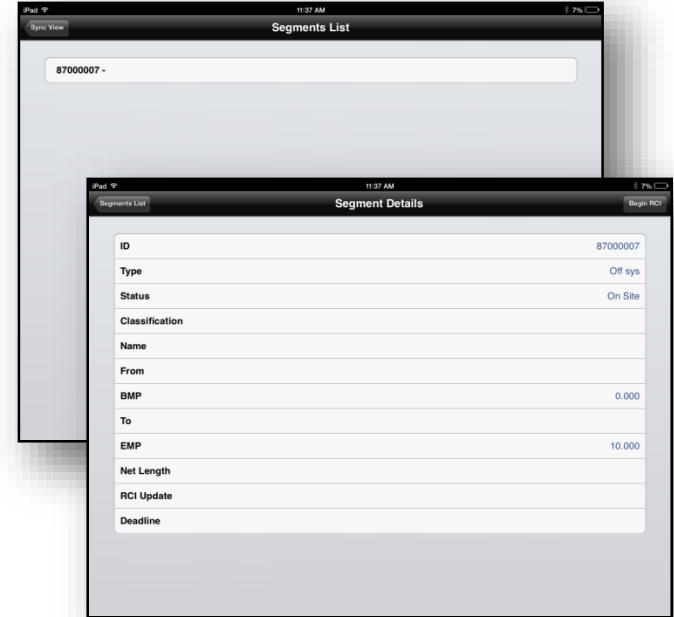
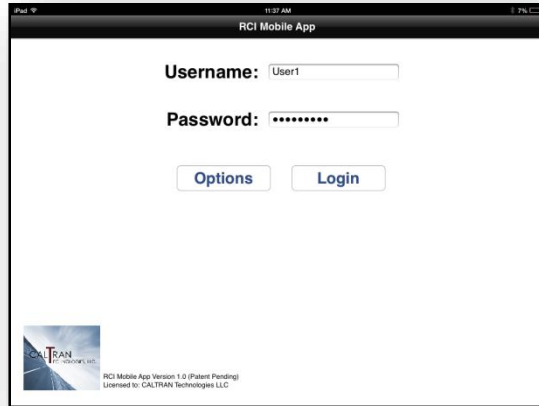
The Field

- IPAD contains the RCI Mobile Inventory App.



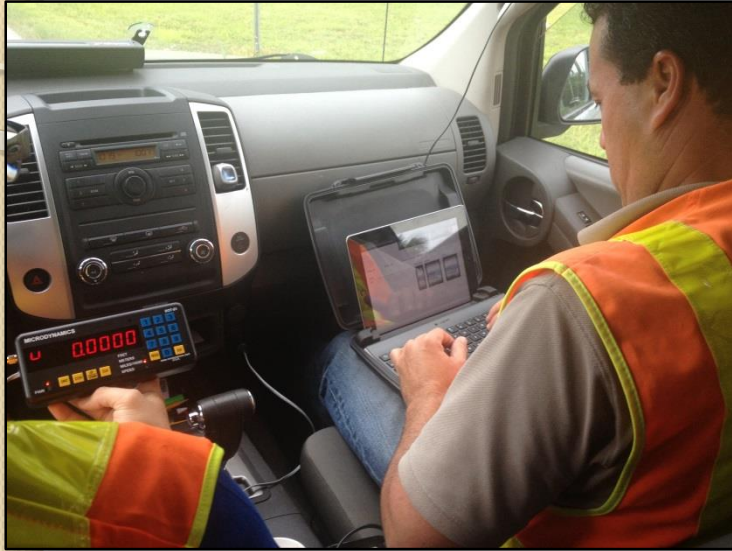
Application working with the latest IOS

The Field



- Login by User Oriented
- VUD-like Screen Information per segment.

The Field



Traditional Data Collection Two Tech Team
But with phone/internet Hot-Spot Connectivity

The Field

iPad 11:37 AM 14%
Survey Results: 87054000 - SW 22 STREET Collect Data Done

Feature ID: 251
Latitude: [Get Coordinates](#)
Longitude:
Mile Post: 0.000

Feature	Characteristic
216 - Bike Lanes and Sidewalks	
219 - Inside Shoulders	
230 - Surface Description	
251 - Intersections	BEGSECNM
252 - Interchanges	ENDSECNM
253 - Railroads	EXITNO
258 - Structures	INTSDIRx

[Show RCI Manual](#)

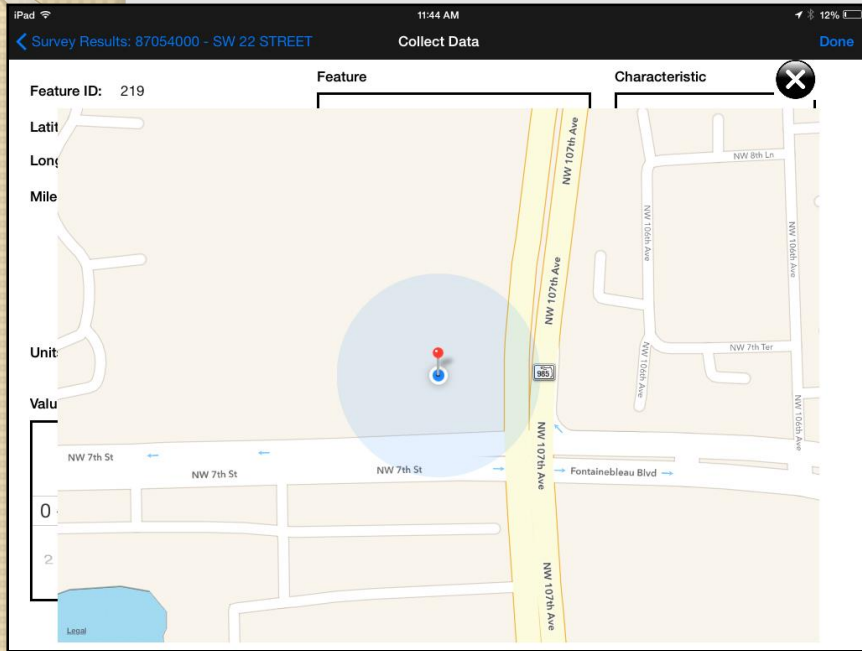
Units : ID Bytes : 20 Characteristic Name: Beginning Roadway Section Milepoint Name

Value:

Road Side	Direction	ATGR
	INTSDIR1	NONE
	INTSDIR2	ATGROTHR
	INTSDIR3	ATGRSIG
	INTSDIR4	ATGRSTOP
C		

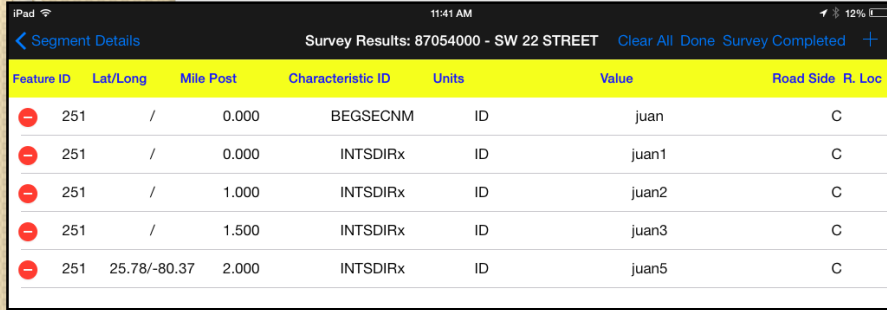
- All features and Characteristics are Included in the IPAD
- Can Collect GPS or Mile Post
- Collects HPMS Features

The Field

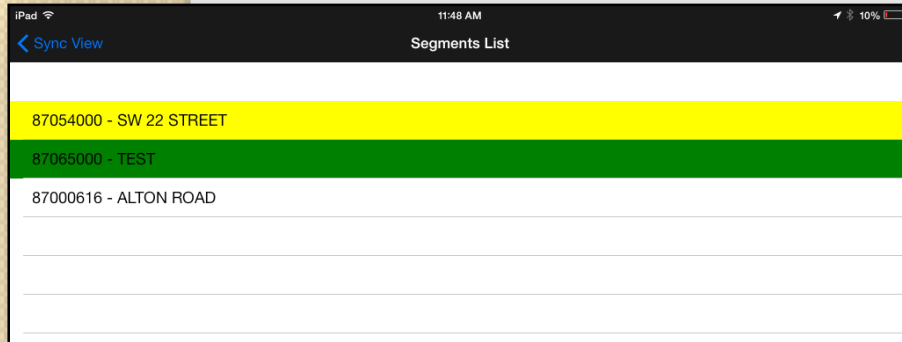


- Provides Instant Geo-positioning
- Hyperlink to RCI Manual

The Field



Feature ID	Lat/Long	Mile Post	Characteristic ID	Units	Value	Road Side	R. Loc
251	/	0.000	BEGSECNM	ID	juan	C	
251	/	0.000	INTSDIRx	ID	juan1	C	
251	/	1.000	INTSDIRx	ID	juan2	C	
251	/	1.500	INTSDIRx	ID	juan3	C	
251	25.78/-80.37	2.000	INTSDIRx	ID	juan5	C	



Segments List
87054000 - SW 22 STREET
87065000 - TEST
87000616 - ALTON ROAD

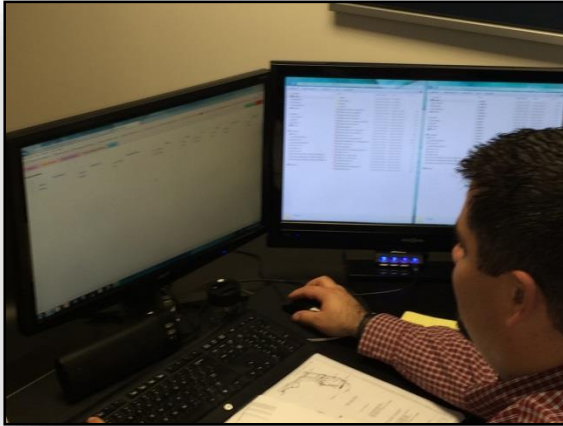
- Table Generated Output
- Data Can be Edited during field inventory
- Inventoried segment can be set in a draft or final completion.

Bridging The Field and The Office

Segments	Segment Results	Archived Segments	Archived Segment Results	Features					Manage Users	Logout
Survey Results										
<input type="checkbox"/>	ProjectName	Roadway ID	Roadway Name	From	BMP	TO	EMP	Entry Time	UserID	
<input type="checkbox"/>	Planning	87000006			0.000		10.000	02/03/2014	user1	
<input type="checkbox"/>	Planning	87000007			0.000		10.000	02/03/2014	user1	

- Upon Completion, results can be transmitted to the office without need for techs to return from the field.
- Segments results can also be archived

Bridging The Field and The Office



- Office staff will be able to pick up issues fast and call the field team to validated the same day.

Bridging The Field and The Office

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
Segment	Corporation/Name	Project/Name	Roadway ID	Roadway Name	Feature Name	Project/FeatureID	FEAT	ACT	UNIT	MILE POST	Characteristic/Name	Survey/Reference	Value	Roadside	Entry Time	Direction	STATUS
2	564	CALTRAN	Planning	67000002	Juan Pablo 2	LOCALNAM	134	/	G		Printed or known Local Street Name	ID	use 288th st Biscayne DR	C	24/02/2014		
3	564	CALTRAN	Planning	67000002	Juan Pablo 2	Type Road	130	/	G		Type of Road	CD	2 - Divided (painted or physical)	C	24/02/2014		
4	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G		Total Through Lanes Surface Width	FT	51	L	24/02/2014		
5	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G		Number of Through Roadway Lanes	EA	5	L	24/02/2014		
6	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G		Total Through Lanes Surface Width	FT	51	R	24/02/2014		
7	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G		Number of Through Roadway Lanes	EA	5	R	24/02/2014		
8	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G		Other Highway Shoulder Width (x+2,3)	FT	52	L	24/02/2014		
9	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G		Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	L	24/02/2014		
10	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G		Other Highway Shoulder Width (x+2,3)	FT	5	R	24/02/2014		
11	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G		Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	R	24/02/2014		
12	564	CALTRAN	Planning	67000002	Juan Pablo 2	Highway Median	215	/	G		Highway Median Width	FT	50	C	24/02/2014		
13	564	CALTRAN	Planning	67000002	Juan Pablo 2	Highway Median	215	/	G		Type of Median	CD	01 8" Paved	C	24/02/2014		
14	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G		Beginning Roadway Section Milepoint	ID	use 177th Krome ave	C	24/02/2014	INTSDIR8	NONE
15	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G		Intersection Surface Type (x+1-9)	CD	A - Asphaltic Concrete	C	24/02/2014		
16	564	CALTRAN	Planning	67000002	Juan Pablo 2	Type Road	130	/	G	0.104	Type of Road	CD	0 - Not divided	C	24/02/2014		
17	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G	0.104	Total Through Lanes Surface Width	FT	52	C	24/02/2014		
18	564	CALTRAN	Planning	67000002	Juan Pablo 2	Through Lanes	512	/	G	0.104	Number of Through Roadway Lanes	EA	5	C	24/02/2014		
19	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.104	Other Highway Shoulder Width (x+2,3)	FT	52	L	24/02/2014		
20	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.104	Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	L	24/02/2014		
21	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.104	Other Highway Shoulder Width (x+2,3)	FT	5	R	24/02/2014		
22	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.104	Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	R	24/02/2014		
23	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.113	Intersection Direction (x+1-9)	ID	use 179th ave	C	24/02/2014	INTSDIR5	
24	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.113	Intersection Surface Type (x+1-9)	CD	A - Asphaltic Concrete	C	24/02/2014		
25	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.259	Intersection Direction (x+1-9)	ID	use 124th ave	C	24/02/2014	INTSDIR2	
26	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.259	Intersection Surface Type (x+1-9)	CD	0 - Other	C	24/02/2014		
27	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.261	Intersection Direction (x+1-9)	CD	use 174th ave	C	24/02/2014	INTSDIR5	
28	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.261	Intersection Surface Type (x+1-9)	ID	A - Asphaltic Concrete	C	24/02/2014		
29	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.517	Other Highway Shoulder Width (x+2,3)	FT	5	L	24/02/2014		
30	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.517	Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	L	24/02/2014		
31	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.517	Other Highway Shoulder Width (x+2,3)	FT	12	R	24/02/2014		
32	564	CALTRAN	Planning	67000002	Juan Pablo 2	Outside Shoulders	214	/	G	0.517	Other Highway Shoulder Type (x+2,3)	CD	3 - Lawn (number of feet to support road bed)	R	24/02/2014		
33	564	CALTRAN	Planning	67000002	Juan Pablo 2	Intersections	251	/	G	0.517	Intersection Direction (x+1-9)	ID	use 172nd ave MC Minn Rd	C	24/02/2014	INTSDIR6	

•Output exported to standard Excel format for secondary QA/QC

Bridging The Field and The Office

ROADWAY FEATURES											
Local Name: Juan Pablo 2						Section No.: 87000002					
Beg M.P.: 0.000		End M.P.: 1.030		Date: 24/02/2014		Initials:					
Pavement Condition:		LEFT		RIGHT							
0.000		# LNS 1		WTH 11		# LNS 1		WTH 11			
		MED 01		WTH 10				Divided (painted or physical)			
		INSHLD1		WTH 0				INSHLD1		WTH 0	
		SHLD1		WTH 12				SHLD1		WTH 8	
		SHLD2		WTH				SHLD2		WTH	
0.104		# LNS 2		WTH 22		# LNS		WTH			
		MED		WTH				Not divided			
		INSHLD1		WTH 0				INSHLD1		WTH	
		SHLD1		WTH 12				SHLD1		WTH 8	
		SHLD2		WTH				SHLD2		WTH	
0.517		# LNS		WTH		# LNS		WTH			
		MED		WTH				Not divided			
		INSHLD1		WTH 0				INSHLD1		WTH	
		SHLD1		WTH 8				SHLD1		WTH 12	
		SHLD2		WTH				SHLD2		WTH	
0.966		# LNS		WTH		# LNS		WTH			
		MED		WTH				Not divided			
		INSHLD1		WTH 0				INSHLD1		WTH	
		SHLD1		WTH 1				SHLD1		WTH 1	
		SHLD2		WTH				SHLD2		WTH	
0.979		# LNS		WTH 10		# LNS		WTH 10			
		MED 01		WTH 10							
		INSHLD1		WTH 0				INSHLD1		WTH	
		SHLD1		WTH 2				SHLD1		WTH	
		SHLD2		WTH				SHLD2		WTH	

SECTION #	INV. DATE			INITIALS
87000002	24/02/2014			
LOCAL NAME	MILE POST	STREET NAME/STRUCTURE/RR/XING	TYPE	DIR
sw 288th at Biscayne DR	0.000	sw 177th Krome ave	A	8
	0.130	sw 175th ave	A	5
	0.259	sw 174th ave	O	2
	0.261	sw 174th ave	A	5
	0.517	sw 172nd ave MC Minn Rd	A	8
	0.644	sw 170nd ave	A	2
	0.773	sw 169th ave	A	8
	0.966	BMP 874093	-	
	0.970	BMP- c103	-	
	0.979	EMP- 874093	-	
	0.979	EMP- c103	-	
	1.030	sw 167th ave Tennessee Rd	A	8

- Post-Processing to RCI/HPMS Standard Sheets
- Output could eventually be uploaded directly to the RCI mainframe



Overall Advantages

- Fast connection between Field and Office Staff
- Reduce coding misunderstandings due to illegible handwriting.
- Reduce turnaround time between office and field.
- Different administration and users levels capabilities
- Easy update of features and characteristics
- Traditional effort but with XXI century approach